Math 102: Calculus II

Spring 2020

Instructor: William Worden
email: william.worden@rice.edu
Office: Herman Brown Hall 420
Classroom, time: RZR 119, MWF 1-1:50pm
Course webpage: www.wtworden.org/teaching/calc_2_s20/

Office Hours: TUE 3:30 - 5:00, FRI 4:05 - 5:30. My posted office hours are time that I reserve for students—feel free to come without notice, and stay as long as you like.

Calc Help Sessions: Monday through Thursday from 7-9pm in Herring 129, start date TBA.

Calendar: A calendar for the course is maintained on the course webpage. It gives a rough schedule of the material to be covered each day, and will be adjusted as needed throughout the semester.

Textbook: OpenStax Calculus Volume 2. This can be accessed online, or downloaded as a pdf, at https://openstax.org/details/books/calculus-volume-2. I recommend the PDF version, as the exercises are not numbered in the online version. This book is also available in hardcopy, and can be purchased at https://tinyurl.com/ydcx36kl.

Course Aims: The first part of this course will focus on techniques of integration, beginning with a review of $u-$substitution. We will focus on concepts and somewhat de-emphasize memorization and niche integration techniques. This will give us the ability in the second part of the course to devote a large amount of time to series, a powerful tool with important real-world applications that also answers the question: how can I compute the number π to one-thousand decimal places with only pencil and paper (and a lot of time)? The last part of the course will focus on polar coordinates and parametrization, two essential tools for studying curves in the plane, and finally complex numbers.

Exams: There will be two Midterm exams, and a Final exam. The first midterm will be on **Tuesday, February 18th** and the second will be on **Thursday, April 2nd**. Both will be from **7-9pm** in the evening. **If you have a conflict with either of these dates, you are required to let me know by the end of the first week of class**. Otherwise, only documented medical emergencies will be accepted as an excuse for missing an exam.

The time and day for the Final Exam will be determined by the Registrar's office and is not currently available. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsibility to either reschedule your travel plans or take a zero on the final.

Use of calculators, notes, or assistance from any other person is strictly prohibited during exams. Any evidence of cheating will be promptly referred to the Honor Council.

Homework: The course will have both online and written homework. WebWork will be used for online homework, and may be accessed at

http://webwork.math.rice.edu/webwork2/Math102Spring20Worden/.

Initial login to WebWork can be done using your net ID as username and student ID as password. You should then change your password. Online homework will be assigned Monday, Wednesday, and Friday, with Monday's homework due the following Thursday, Wednesday's homework due the following Saturday, and Friday's homework due the following Tuesday. When working on WebWork assignments, you should work your solutions on paper as you would if you were going to hand them in (i.e., neatly and showing all work), then enter the solutions online.

There will also be weekly written homework, assigned on Wednesday of each week and due the following Wednesday. For each of these assignments, solutions for the first five problems will need to be written up and handed in (see below instructions). Remaining questions are for extra practice and do not need to be turned in, but it is strongly suggested that you do all problems. No late homework will be accepted (except in the rare case of documented emergencies). However, the four lowest-scoring WebWork assignments will be dropped at the end of the semester, as will the two lowest-scoring written homework.

Submitting written homework: To turn in written homework using an iOS or Android device, you will need the Canvas Student app and CamScanner (or another scanner app)—these are both free (see links below). For each problem to be submitted, you will use CamScanner to scan your work, then share to Canvas. Below are links to videos describing how to do this (ignore the part about signing in to Canvas, you'll have to figure that part out) for both iOS and Android. If you are submitting, for example, problem Q3 of Homework 2, then on Canvas you will submit this to the assignment named **HW2_Q3**. The full list of problems for the assignment will be in an assignment called **HW2_Problems**. If you do not have an iOS or Android device, you will need to upload scans of your solutions the old-fashioned way: using a web browser. **No matter how you submit your work, please make sure you have crisp and clear scans**, so graders can read your work without effort.

Canvas Student (Android): https://tinyurl.com/y9zt3bzj
Canvas Student (iOS): https://tinyurl.com/y9w4gt2f
CamScanner (Android): https://tinyurl.com/6mjw4gf
CamScanner (iOS): https://tinyurl.com/yaog2fl3
video instructions (Android): https://tinyurl.com/y8eqrxwm
video instructions (iOS): https://tinyurl.com/ycd8ycd6

Working on homework with others: You are encouraged to work with your classmates on homework, with the following considerations. First, you should give serious thought to an exercise, and try to come to a solution by yourself, before discussing it with others. The purpose of collaboration is to help each other understand the concepts, think about the problem, and discuss approaches to reaching a solution. Your goal should be to come out of a collaboration with an understanding of how to do a certain type of problem, not just the particular problem you were assigned. Most importantly, you should always write up your solutions (or submit them to WebWork) on your own.

Whether working by yourself or with others, you should never look up solutions to problems online. Calculators will not be allowed for exams, and therefore you should not use them when working on homework (unless directed otherwise). It is your duty under the Honor Code, and in your own best interests as you prepare for exams, to follow the above guidelines.

Up to three times during the semester I will allow you to fully make up a problem from the written homework (problems that you did not attempt are ineligible). To take advantage of this opportunity you will need to come to office hours (or make an appointment) and work the problem out on the board, explaining your work as you go.

Attendance: Students may choose, on an individual basis, either to have attendance required, in which case it will count for 5% of their total grade, or to have attendance be voluntary. If the voluntary attendance option is selected, homework will be worth 25% of the students grade instead of 20%. In either case, students are strongly advised to attend every class, as good performance on exams is correlated with good attendance.

Grading: Online and written homework will together account for 20% of your grade. The three exams (Midterm 1/Midterm 2/Final) will be worth a total of 75% of your course grade, and will be weighted (2/2/2.5) or (1.5/2/3) or (2/1.5/3), whichever gives you the highest grade. The remaining 5% will be allocated based on the attendance policy each student chooses (see Attendance).

When computing final course grades, a student's exam scores are normalized against scores of all students in Math 102 this semester, not just those in this section.

Disability Support: Students who think they may need accommodations in this course because of the impact of a disability should give me a written letter from the Disability Resource Center within the first two weeks of the course.

Disclaimer: This syllabus is subject to change, though I will do my best to avoid this. Students will be notified of any changes as early as possible, and will be consulted for feedback as these decisions are made.